CGT Intrastate Transmission and Storage Capacity

CEC Siting Committee Workshop
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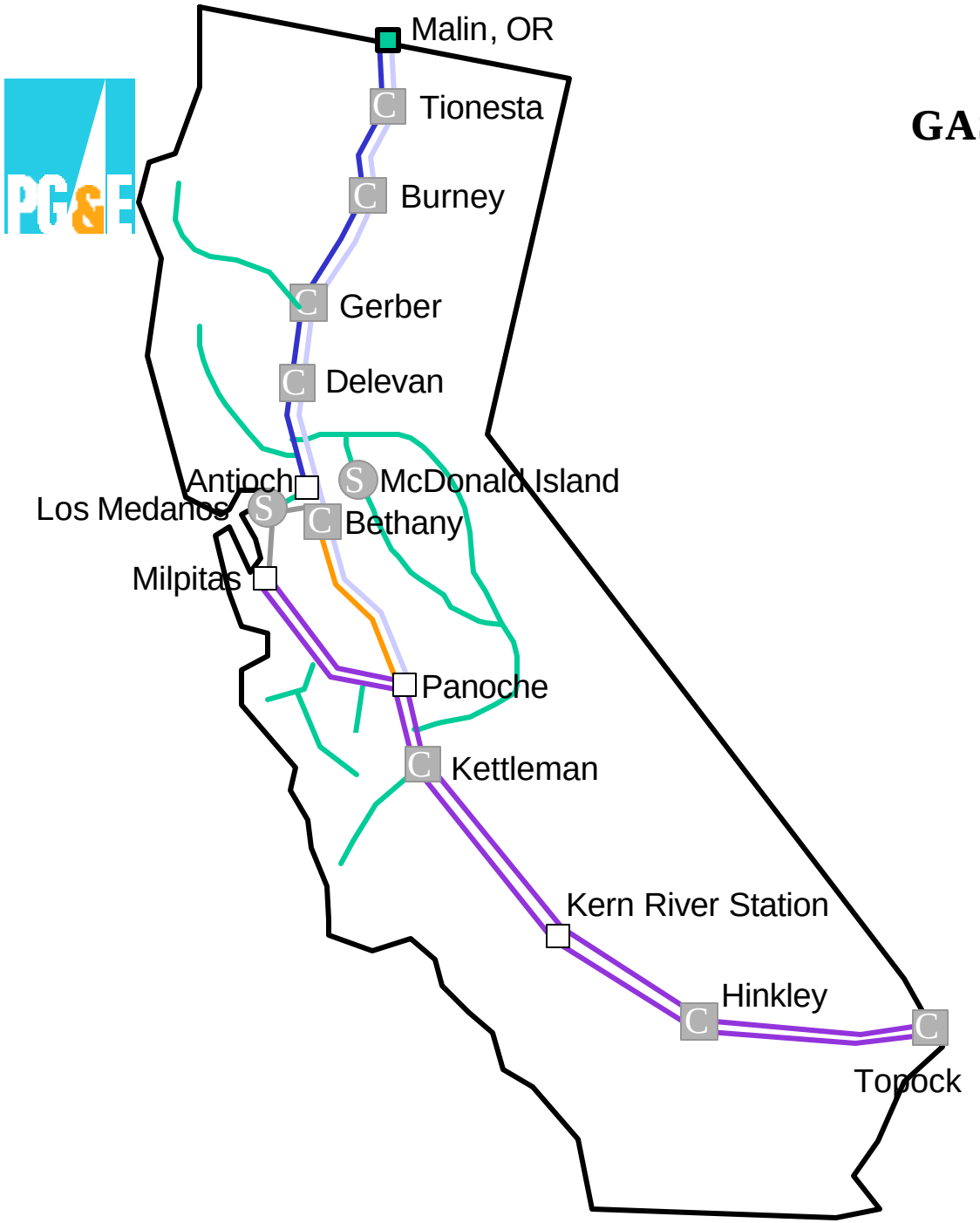
Dan Thomas
Director, Products & Sales
California Gas Transmission

Agenda

- Current System Overview
- Demand v. Slack Capacity
- Potential CGT System Expansion

PG&E BACKBONE GAS TRANSMISSION SYSTEM



LEGEND

- Compressor Station
- Storage Facility
- Terminal / Station
- Line 300
- Line 400
- Line 401
- Bay Area Loop
- Line 2
- Local Transmission

Firm Capacity (MMcf/d)	
Line 300	1,140
Line 400/401	1,803
California gas	200
Storage Injection*	165-290
Storage Withdrawal*	1,175-1,450

(* varies with field pressure)

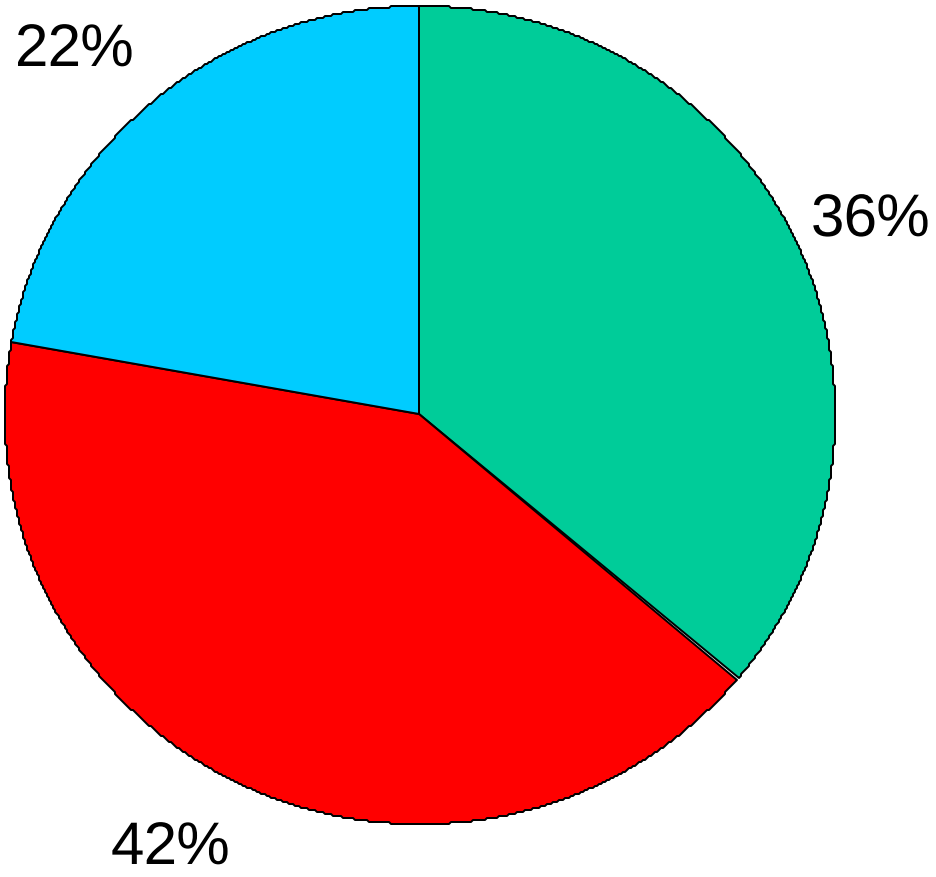
CGT's facilities serve several functions

- "Backbone" transmission pipelines deliver baseload gas supplies, including storage injection
  - "Slack capacity" provides peak supplies, and allows gas-on-gas price competition
- PG&E's storage facilities were developed primarily to serve the core market's winter season demands

CGT provides the transportation capacity; Noncore end-users responsible for supplies

- PG&E Core Procurement Department provides firm gas supplies for core customers (residential & commercial), under the utility's obligation to serve
- Noncore customers, including power generators
  - Buy gas from marketers or producers
  - Are served as interruptible loads (if core needs the capacity or gas)
- Most noncore customers are connected to the transmission system, which includes the backbone and local transmission pipelines

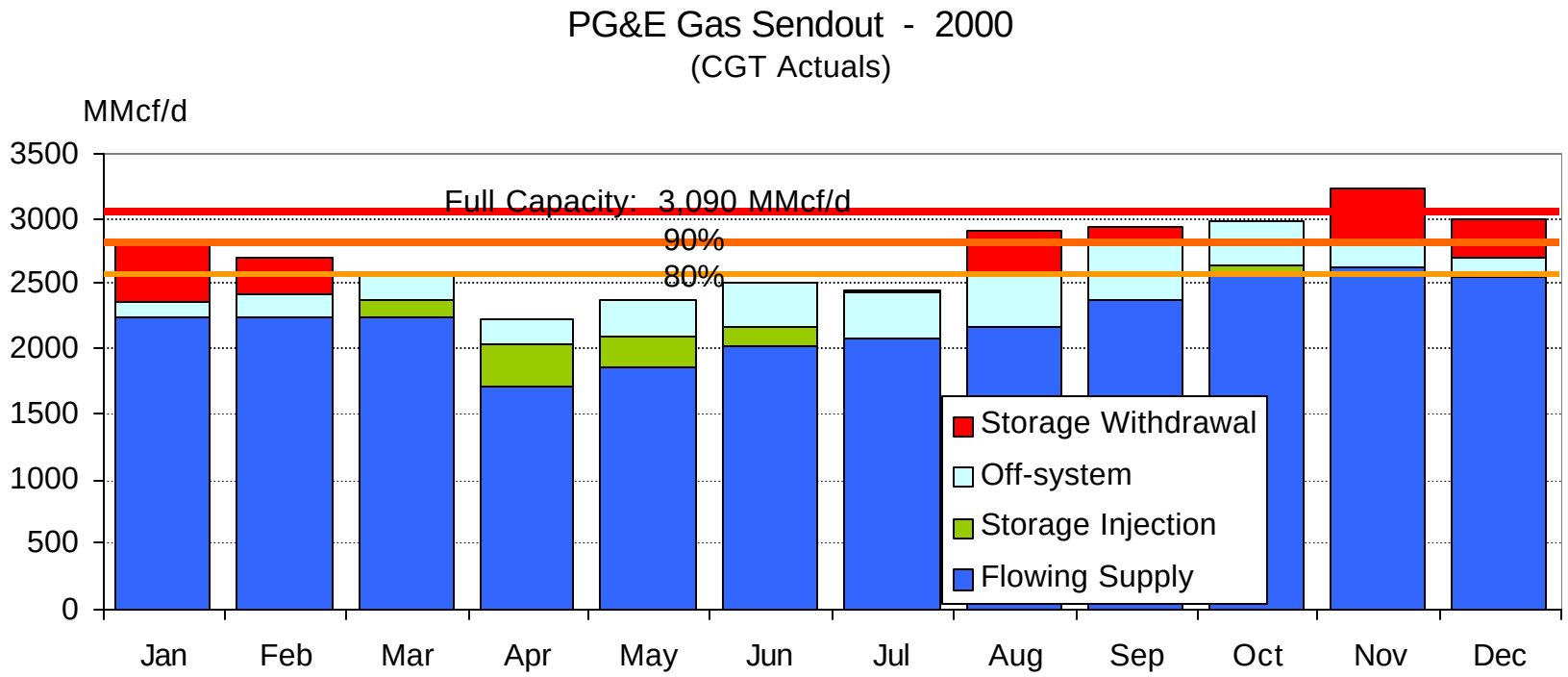
Power generation is CGT's dominant on-system load



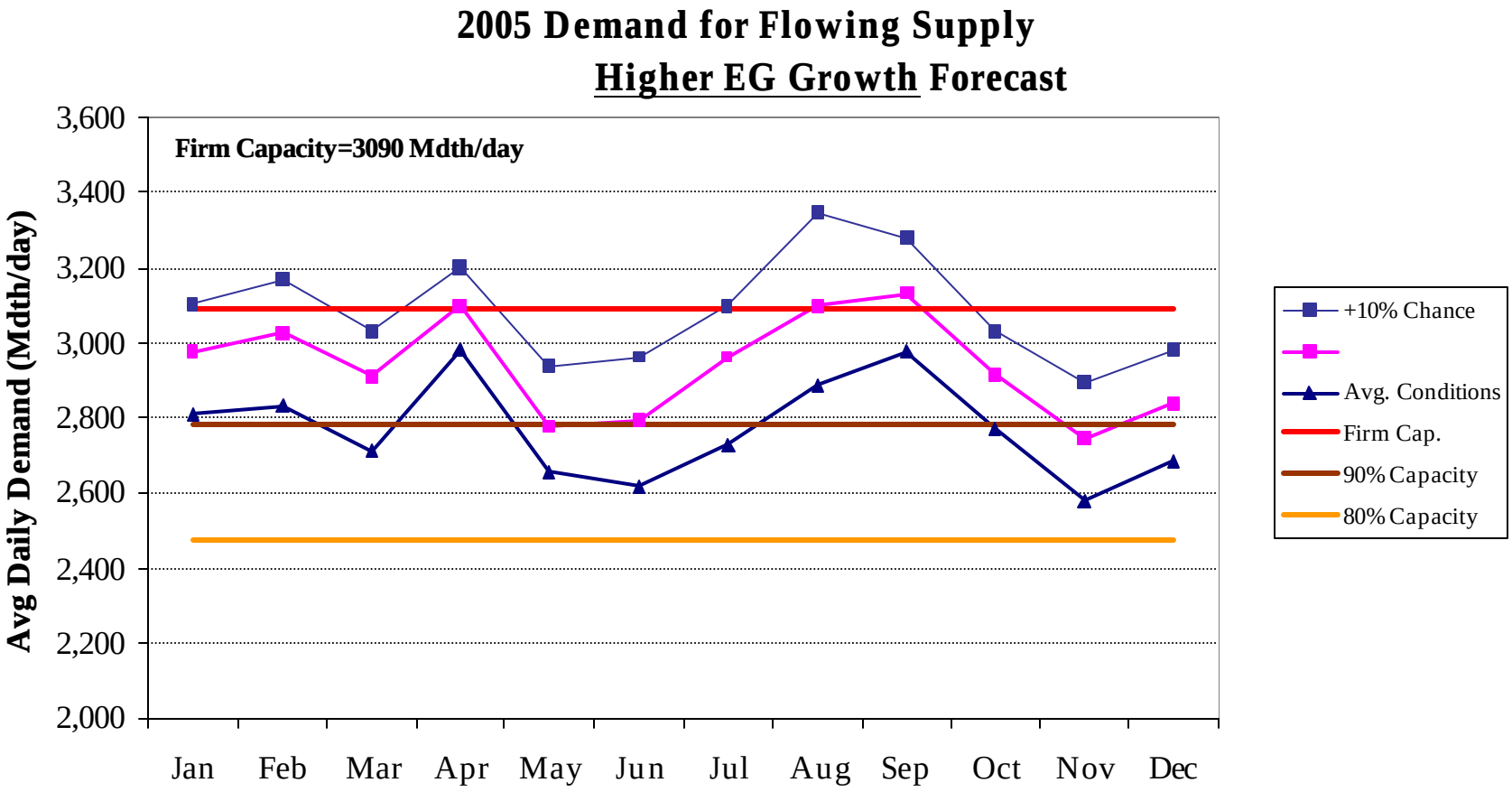
2000: 886 Bcf/yr

- Core: 865 MMcf/d
- Power: 998 MMcf/d
- Noncore: 528 MMcf/d

Today, slack capacity is below suggested levels for much of the year



High EG demand reduces slack capacity, risking gas price spikes



Future CGT facilities can be expanded to meet market needs

- Additional backbone capacity to meet growing demand (electricity generation), and maintain slack capacity
- New storage (& related pipelines) to provide services that the market wants:
  - Reliable peaking supply and swing capacity for electricity generators
  - Seasonal price arbitrage opportunities
  - Short-term storage cycling capability

New CGT transmission capacity: parameters

- Redwood Path additions likely in the near- to mid-term
  - Favorable economics
  - But new capacity all the way back to the supply basin is necessary
- Capacity additions to fully utilize expanding storage facilities: Wild Goose, Lodi, PG&E
- Baja Path design makes capacity additions very expensive

CGT Redwood Path Expansion Potential

- Redwood Loops
  - 200 MMcf/d ~$30 million
- Redwood Compression
  - 200 (?) MMcf/d ~$90 million (?)
- May also need additional capacity to bring new in-state storage volumes to load centers

CGT Expansion Potential

- Baja path expansion is expensive
  - ~ 200 MMcf / d
  - ~ $400 million

- Storage
  - ~ 5 Bcf inventory; ~ 500 MMcf / d withdrawal
  - ~ $75 million